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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,364	12/01/2004	Hitoshi Iochi	L9289.04185	1439

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EXAMINER	
ALAM, FAYYAZ	
ART UNIT	**PAPER NUMBER**
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,364	IOCHI, HITOSHI	
	Examiner	Art Unit	
	Fayyaz Alam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 5 and 7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement submitted on 3/28/2005 been considered by the Examiner and made of record in the application file.

Preliminary Amendment

3. The present Office Action is based upon the original patent application filed on 12/1/2004 as modified by the preliminary amendment filed on 12/1/2004. **Claims 1 - 5 and 7** are now pending in the present application.

Claim Objections

4. **Claim 1** is objected to because of the following informalities: on line 3 delete "a" because it does not make any sense. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Consider **claim 5**, the phrase "*IR* type *hybrid ARQ*" *and the phrase "CC type hybrid ARQ" renders* the claims indefinite because the addition of the word "type" to an otherwise definite expression (e.g., *IR hybrid ARQ and CC hybrid ARQ*) extends the scope of the expression so as to render it indefinite (*Ex parte Copenhaver*, 109 USPQ 118 (Bd. App. 1955)). See MPEP § 2173.05(b).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 - 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Aizawa et al. (U.S. Application # 2002/0114404)** in view of **Tiirola et al. (U.S.**

Application # 2005/0041626) and further in view **Kitazawa et al. (U.S. Application # 2003/0169746).**

Consider **claims 1 and 7**, Aizawa et al. clearly disclose a base station apparatus (100A; figure 3) and inherently a method of steps comprising:

A transmission power deciding section (111) (read as transmit power determining section; figure 3, [0013] and [0014]) that sets the transmit power.

Aizawa et al. fail to disclose a transmit power determining section that, out of an initial transmission packet and a retransmission packet to be transmitted to a mobile station apparatus on a downlink, sets transmit power of the retransmission packet to a transmit power value so that reception quality of the retransmission packet at the mobile station apparatus is lower than the reception quality of the initial transmission packet at the mobile station apparatus;

A control section that controls the transmit power of the retransmission packet to the transmit power value set by said transmit power determining section.

In the related field of endeavor, Tiirola et al. clearly disclose transmission of a packet (read as initial transmission packet; [0035] and [0037]) and a retransmission of a packet to be transmitted to a user terminal (110) (see figure 5 and [0027]) (read as mobile station apparatus) on a downlink. After receiving a failure of acknowledgement for the initial transmission, the transmitter transmits the packet again (packet 304) at a lowered transmission power (read as setting the transmit power value of the retransmission packet so that a reception quality of the retransmission packet at the mobile station apparatus is lower than the reception quality of the initial transmission

packet at the mobile station apparatus) (see [0036]). A power amplifier (512) (read as control section) that controls the transmit power of the transmission (read as retransmission packet) to the transmit power value is also disclosed.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the teachings of Tiirola et al. with that of Aizawa et al. in order to provide reduced interference and power consumption.

Aizawa et al. and Tiirola et al. fail to disclose a distribution section that distributes extra transmit power found from the transmit power value set by said transmit power determining section and a total transmit power to a packet other than the retransmission packet.

In the related field of endeavor, Kitazawa et al. clearly disclose a resource allocation unit (113; figure 6, [0073], and [0074]) (read as distribution section) that allocates (read as distributes) extra power to packet in group 2 (read as packet other than the retransmission packet) once there is a remainder resource i.e. transmission power left by subtracting the transmission power allocated to the packet of group 1 (read as transmit power set by transmit power determining section) from the maximum transmission power (read as total transmit power) (see [0073], 0074], and [0075]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the teachings of Kitazawa et al. with that of Aizawa et al. and Tiirola et al. in order to provide power efficiency to the base station apparatus.

Consider **claim 2** in view of claim 1, Aizawa et al. disclose transmission power deciding section (111) (read as transmission power determining section) sets the

transmit power value ([0013]) of the parity bits (read as retransmission packet) to a value lower than the transmit power value of the data transmission (read as initial transmission packet) (see [0026]).

Consider **claim 3** in view of claim 2, Aizawa et al. as modified by Tiirola et al. and Kitazawa et al. fail to disclose transmit power determining section sets the transmit power value of the retransmission packet to a lower value as a retransmission count increases.

Nonetheless Tiirola et al. disclose the invention for maximum of two retransmissions where the power is lowered for retransmission compared to first transmission. In addition, it is disclosed that the invention can be expanded to any number of retransmissions (read as transmit power value of the retransmission packet to a lower value as a retransmission count increases) (see [0035]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the teachings of Tiirola et al. with that of Aizawa et al. and in order to provide robustness to the base station apparatus.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al., Tiirola et al., and Kitazawa et al. as applied to claim 1 above, and further in view of **Iacono et al. (U.S. Application # 2006/0092887).**

Consider **claim 4** in view of claim 1, Aizawa et al., Tiirola et al., and Kitazawa et al. fail to disclose a calculation section that calculates a difference between downlink channel quality at the time of the initial transmission packet transmission and downlink channel quality at the time of the retransmission packet transmission:

wherein said transmit power determining section determines the transmit power value of the retransmission packet according to the difference calculated by said calculation section.

In the related field of endeavor, Iacono et al. clearly disclose a path loss computing circuitry (19) (read as calculation section) that determines (read as calculates) path loss (read as channel quality) based upon the difference between the known reference power signal conveyed by input (25) (read as downlink channel quality at the time of initial transmission packet) and measured received power strength conveyed by input (26) (read as downlink channel quality at the time of the retransmission packet transmission) (see figure 2, [0079], [0085]). Downlink channel quality is assumed since in paragraph [0079] a communication between a base station and user equipment is disclosed. Packet transmission is assumed since the invention as disclosed by Iacono et al. is implemented in a 3GPP CDMA system, where it is well known that the communication is packet switched. In addition, Ianoco et al. disclose a compute transmit power circuitry (15) (read as transmit power determining section) which receives information from the compute path loss circuitry (19) and adjusts transmission power according to the received input (read as transmit power determining section determines the transmit power value of the retransmission packet according to the difference calculated by said calculation section) (see figure 2, [0080], and [0085]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the teachings of Iacono et al. with that of Aizawa et

al., Tiirola et al., and Kitazawa et al. in order to add robustness to the functionality of the base station apparatus by controlling transmission power.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al., Tiirola et al., and Kitazawa et al. as applied to claim 1 above, and further in view of **Xu et al. (U.S. Application # 2003/0135811).**

Consider **claim 5** in view of claim 1, Aizawa et al., Tiirola et al., Kitazawa et al., and Iacono et al. fail to disclose a gain determining section that determines a gain of an IR type hybrid ARQ over a CC type hybrid ARQ,

wherein said transmit power determining section determines the transmit power value of the retransmission packet according to the gain determined by said gain determining section. .

In the related field of endeavor, Xu et al. disclose a gain comparison between IR scheme (read as IR Hybrid ARQ) and CC scheme (CC Hybrid ARQ) and a signal transmit unit (9) (read as power determining section) that would inherently determine the power of the communication device (see figure 1, [0055] and table 2). According to the disclosure by Xu et al. it is obvious to take the information provided and extend it to a tangible system such as a gain determining section and use it for the purpose of power control since it is a significant issue in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the teachings of Xu et al. with that of Aizawa et al., Tiirola et al., and Kitazawa et al. in order to provide robustness to the base station apparatus by providing reliable communication with reduced power consumption.

Conclusion

8. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1101. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Fayyaz Alam

June 23, 2006

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